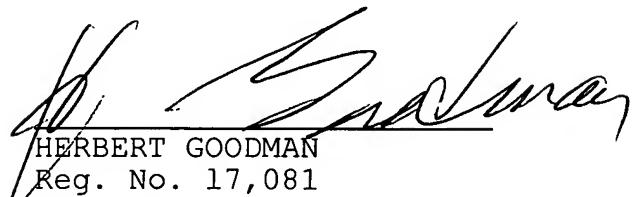


A copy of page 1 with the amendment hand-marked thereon is attached hereto.

Respectfully submitted,



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SPECIFICATION

Non-aqueous electrolyte and lithium secondary battery using the same

5

application

International Application

This application is a continuation of PCT/JP01/11630 ~~b1~~ filed December 28, 2001, now abandoned.

Field of the Invention

10 The present invention relates to a non-aqueous electrolyte for lithium secondary battery, comprising a non-aqueous solvent having dissolved therein a lithium salt, and a lithium secondary battery using the same. Specifically, the non-aqueous electrolyte of the present invention comprises a non-aqueous solvent which comprises
15 (a) at least one phosphate (phosphoric acid ester) selected from (a1) a chain state phosphate and (a2) a cyclic phosphate as an essential component, and which may contain (b1) a cyclic carboxylate (carboxylic acid ester) and (b2)
20 a cyclic carbonate (carbonic acid ester). Further, the non-aqueous electrolyte comprises the above non-aqueous solvent which further comprises (c1) a vinylene carbonate compound and/or (c2) a vinylethylene carbonate compound, or at least one compound selected from the group consisting of
25 (d1) a cyclic amide compound, (d2) a cyclic carbamate compound, and (d3) a heterocyclic compound.

The non-aqueous electrolyte of the present invention has flame retardancy (self-extinguishing property) or
30 nonflammability (having no flash point) and high conductivity as well as electrochemical stability. In addition, the secondary battery using the non-aqueous electrolyte of the present invention exhibits excellent battery charge-discharge characteristics and extremely high
35 battery safety.